HOMEWORK 1

Single table queries:

1. Write a query to display make, model, year1 and vin of all cars whose vin contains 'LP' anywhere in it. Sort the results in the descending order of year.

```
select make, model, year1, vin
from car_cars
where vin like '%LP%'
ORDER BY year1 desc
```

2. Write a query to find average video length of those videos whose rating is greater than or equal to 8. Name the column as video_average.

```
select avg(vid_length) as video_average
from video_video
where rate_id >'8/10'
```

3. Write a Query to find *c_num* and *course_name* for the courses having ‘database’ or ‘system’ in their course description from university_courses table.

```
select c_num, course_name
from university_courses
where course_description  like '%database%'  or course_description like 'system'
```

4. Write a query to find *pur_id, cus_id* and *price_paid* for the cars that are priced in the range of 10000 and 15000 from car_purchases table.S ort the results by maximum price paid to minimum.

```
select pur_id, cus_id, price_paid
from car_purchases
where price_paid between 10000 and 15000
order by price_paid desc
```

Sub queries:

5. Write a query to display fname, lname, email_address of the faculty who taught Course number OMIS651 and stayed in 60115 zipcode area using subquery

```
select fname,lname,email_address
from university_faculty
where fid in
(Select fid from university_classes
        where c_num in
         (Select c_num from university_courses where c_num ='OMIS651')) and
zipcode ='60115'
```

6. Write a query to display all customer first and last names of those who lived in Aurora or Naperville

```
select cus_first, cus_last
from car_customer
where zipcode in (select zipcode
from car_zip where city in ('Aurora', 'Naperville'))
```

Joins:

7. Write a query to display the city, state, number of customers in the city as num_of_customers from each city. Order by highest to lowest number of customers.

```
select city,  count(cus_id) as num_of_customers, z.state
from car_customer c inner join car_zip z
on c. zipcode = z. zipcode
group by city, z.state
order by num_of_customers desc
```

8. Display the customer first and last names of all customers who rented a video beginning with the letter E, sorted by first name and last name

```
select cus_first, cus_last
from  video_customer c, video_rents r, video_copy1 co, video_video v
where c.cus_id=r.cus_id and r.cid= co.cid and co.isbn = v.isbn and title like 'E%'
order by cus_first, cus_last
```

9. Write a query to display emp_first, emp_last and sum of sales made by employee as totalsales regardless of whether employee made a sale or not and arrange the result by totalsales highest to lowest

```
select emp_first, emp_last, sum(amt) as totalsales
from video_employee e left join video_purchases p
on e.emp_id = p.emp_id
group by e.emp_id, emp_last , emp_first
order by totalsales desc
```

10. Write a query to display isbn, copy_no, rent_type, title of all titles regardless of whether they are rented or not and order the list by copy_no

```
select v.isbn, copy_no, rent_type, title
from video_copy1 co inner join video_video v
on v.isbn = co.isbn
order by copy_no
```

Use the ARK_Instafood database to answer the following questions

11. Write a query to display Employee_ID and calculate the total amount received by each employee (salary + incentives) as amt_recieved and sort the list lowest amt_recieved to highest

```
select  p.Employee_ID, Sum (p.BasicSalary + i.Incentive_Amount) as amt_recieved
from ARK_Instafood_Employee e, ARK_Instafood_Payroll p,
ARK_Instafood_Incentive i
where e.Employee_ID = p.Employee_ID and p.IncentiveType = i.IncentiveType
group by p.Employee_ID
order by amt_recieved
```

12. Write a query to display first name, last name, number of orders completed as order_delivered by each employee

```
select FirstName, LastName, Count(e.Employee_ID) as order_delivered,
e.Employee_ID
from ARK_Instafood_Delivery d, ARK_Instafood_DeliveryExecutive de,
ARK_Instafood_Employee e
where d.Employee_ID= de.Employee_ID and de.Employee_ID = e.Employee_ID and
d.Status='Completed'
group by e.Employee_ID, FirstName, LastName
```

13. Write a query to display name of restaurant and total orders it received as total_orders and sort the list by total orders, highest first.

```
select Name, Count (Order_ID) as total_orders
from ARK_Instafood_Restaurant r, ARK_Instafood_Menu_Type t,
ARK_Instafood_OrderItem i
where r.Restaurant_ID = t.Restaurant_ID and t.Type_ID = i.Type_ID
group by t.Restaurant_ID, Name
order by total_orders Desc
```

14. Write a query to display the Customer_ID, Firstname, EmailAddress, PhoneNumber who placed the most number of orders.

```
select top 1 o.Customer_ID, c.FirstName, c.LastName, c.PhoneNumber,
c.EmailAddress
from ARK_Instafood_Customer c left join ARK_Instafood_OrderHeader o
on c.Customer_ID = o.Customer_ID
group by  o.Customer_ID,FirstName, LastName, PhoneNumber, EmailAddress
order by count(o.Customer_ID) desc
```